



PATENT SPECIFICATION

693,434

Date of filing Complete Specification : April 6, 1951.

Application Date : April 11, 1950. No. 8881/50.

Complete Specification Published : July 1, 1953.

Index at Acceptance :—Class 21, E(13a : 14).

COMPLETE SPECIFICATION.

Improvements relating to Tapping Bushes for Casks.

I, ALFRED CLIFFORD SYMPSON, British Subject, of 27 Lavington Road, Worthing, Sussex, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—
This invention relates to tapping bushes for casks, of the type comprising a body having an external screw thread from front to back with an external flange at the forward end and an internal flange at the rear end, and intended to be inserted by screwing into a preformed hole in the wall of a cask.

Such tapping bushes are inserted into beer and other casks to receive a tap or pipe for delivery of the contents. The procedure is first to drill a hole of uniform diameter in the end of the cask and then to taper the outside portion of the hole by means of a countersinking tool. The tapping bush is then screwed into the tapered hole and cuts its own thread in the surrounding wood.

According to the present invention the body of the bush is provided at the rear end with a portion having a plain external peripheral surface forming a prolongation beyond the rear end of the screw thread, the bore of the body being formed at the rear edge with an internal chamfer extending to the plain external peripheral surface to engage the bore of the preformed hole in the cask, so as to avoid producing any abrupt shoulder in the path of the emerging liquid.

It will be understood that the words "formed with a chamfer" include constructions in which the rear edge of the bush is initially formed in this way without the need for any subsequent machining operation, as well as those in which the chamfer is produced subsequently to rough-forming the body of the bush.

Considerable care is necessary in the

washing of beer barrels to ensure that all sediment which may carry bacteria is removed. The customary form of tapping bush presents an abrupt shoulder at its rear end forming a pocket in which sediment can readily collect. One prior proposal of this type is described in British Patent Specification No. 23272 of 1903, in which the inner rear edge of the internally directed rear flange is enlarged or bevelled to afford a clearance for the passage of the wooden disc from the centre of the cup-shaped bung, which disc is driven into the barrel when tapping. In the construction illustrated in the drawings of this prior Specification, however, the said bevel stops short of the outer periphery of the tapping bush, thus leaving a substantial shoulder at the inner end of the bush at right angles to the axis of the bush. In addition the screw thread extends to the rear of the peripheral surface of the bush, and may provide an additional cavity or recess preventing satisfactory draining through the tap hole and creating a further pocket where bacteria can flourish. This pocket is very difficult to clean by the normal methods of cask washing. The present invention eliminates this pocket in a particularly simple and effective manner.

The invention may be carried into practice in various ways, but one specific embodiment will now be described by way of example, with reference to the accompanying drawings in which:—

Figure 1 is a longitudinal section through a tapping bush which embodies the present invention; and

Figure 2 is a longitudinal section through a different form of bush which does not embody the invention, illustrated for the purposes of comparison.

In the embodiment of the invention shown in Figure 1, the tapping bush is generally of standard form comprising a tubular body

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[Price 2s. 8d.]

5 having an external screw thread 1 about $\frac{3}{4}$ inch in length, the screw thread tapering from about $1\frac{3}{4}$ inches diameter at its forward end to a little over $1\frac{1}{2}$ inches diameter at its rear end. At its forward end the body carries an external flange 2 while at the rear end is an internal flange or step 3.

10 In accordance with the invention the body of the bush has a plain extension 4 extending about $\frac{1}{4}$ inch beyond the end of the screw thread, whose inside surface is chamfered at 5 to form a sharp rear edge at 6. The outer surface of the extension 4 also flares slightly to a diameter of nearly $1\frac{1}{2}$ inches at the sharp rear edge 6, this dimension being chosen so that the extension is a snug fit in the portion of the hole 7 in the wooden cask 8 which is not countersunk.

20 Accordingly instead of presenting an abrupt shoulder, possibly aggravated by a re-entrant cavity due to the termination of the screw thread, the rear end of the tapping bush presents a smoothly tapered passage for the emerging liquid extending from its rear edge, which fits snugly against the wood, to its inner edge where it merges with the bore in the rear part of the bush.

30 Figure 2 shows for the purposes of comparison only a standard type of tapping bush which does not embody the invention. In Figure 2, it will be seen that the rear edge of the bush presents an annular shoulder 10 at right angles to the axis of the bore of the bush and no extension is provided rearwardly, beyond the screw thread. The shoulder 10 would provide a recess for the collection of sediment which would be very difficult indeed to clean out properly.

40 Furthermore it is possible that the end of

the screw thread may produce an additional cavity between the bush and the wood which could not be properly cleaned out, since the screw thread in this construction terminates substantially at the face 10, and its start might be exposed.

What I claim is:—

1. A tapping bush of the type specified, whose body is provided at the rear end with a portion having a plain external peripheral surface forming a prolongation beyond the rear end of the screw thread, the bore of the body being formed at the rear edge with an internal chamfer extending to the plain external peripheral surface to engage the bore of the preformed hole in the cask, so as to avoid producing any abrupt shoulder in the path of the emerging liquid.

2. A tapping bush as claimed in Claim 1 in which the plain external peripheral surface of the body beyond the rear end of the screw thread is also flared so that its diameter increases slightly towards the rear edge.

3. A tapping bush for a cask as specifically described herein with reference to Figure 1 of the accompanying drawings.

4. The combination with a tapping bush as claimed in any one of the preceding claims, of a cask having a hole bored transversely through its wall, the inner part of the hole being cylindrical, and leading to an outwardly flared outer part into which the bush is screwed, the rear end of the bush lying in the inner cylindrical part of the hole and fitting closely against its cylindrical surface.

KILBURN & STRODE.
Agents for the Applicant.

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PROVISIONAL SPECIFICATION.

Improvements relating to Tapping Bushes for Casks.

80 I, ALFRED CLIFFORD SYMPSON, British Subject, of 27 Lavington Road, Worthing, Sussex, do hereby declare this invention to be described in the following statement:—

85 This invention relates to tapping bushes for casks, of the type comprising an external screw thread tapering from front to back with an external flange at the forward end and an internal flange at the rear end. Such tapping bushes are inserted into beer and other casks to receive a tap or pipe for 90 delivery of the contents. The procedure is first to drill a hole of uniform diameter in the end of the cask and then to taper the outside portion of the hole by means of a tool known as a counter-sink. The tapping bush is then screwed into the tapered hole

and cuts its own thread in the surrounding wood.

According to the present invention the rear edge of the inner periphery of the bush is chamfered so as to avoid presenting an abrupt shoulder in the path of the emerging liquid.

Preferrably the rear end is prolonged so as to present a plain external surface beyond the rear end of the screw thread, the internal surface of the prolongation being flared or chamfered at its rear end.

Considerable care is necessary in the washing of beer barrels to ensure that all sediment which may carry bacteria is removed. The customary form of tapping bush presents an abrupt shoulder at its rear

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end forming a pocket in which sediment can readily collect. This is aggravated by the end of the screw thread which may provide an additional cavity, preventing satisfactory draining through the tap hole and creating a further pocket where bacteria can collect. This pocket is very difficult to clean by the normal methods of cask washing. The present invention eliminates this pocket in a particularly simple and effective manner.

In one specific embodiment of the invention the tapping bush is generally of standard form comprising an external screw thread about $\frac{3}{8}$ inch in length tapering from about $1\frac{1}{4}$ inches diameter at its forward end to a little over $1\frac{1}{2}$ inches diameter at its rear end. At the forward end is an external flange whilst at the rear end is an internal flange.

In accordance with the invention the rear end of the bush has a plain extension extending about $\frac{1}{2}$ inch beyond the end of the screw thread. The external diameter of this is a little over $1\frac{1}{4}$ inches and is chosen

so as to be a snug fit in the portion of the hole in the wood which is not counter-sunk. The rear face of the extension is chamfered from its outer periphery to its inner periphery.

Accordingly instead of presenting an abrupt shoulder, possibly aggravated by cavities due to the termination of the screw thread, the rear end of the tapping bush presents a smooth taper extending from its outer edge, which fits snugly against the wood, to its inner edge where it merges with the bore in the rear part of the bush.

The invention is not limited to the embodiment described, since the rear edge of the customary bore could be chamfered without being provided with an extension, but the arrangement described is preferred since without the extension the outer edge of the chamfer would merge with the screw thread and would not fit snugly against the wood throughout its periphery.

KILBURN & STRODE.
Agents for the Applicant.

Abingdon : Printed for Her Majesty's Stationery Office, by Burgess & Son (Abingdon), Ltd.—1953.
Published at The Patent Office, 25, Southampton Buildings, London, W.C.2,
from which copies may be obtained.

693,434 COMPLETE SPECIFICATION

1 SHEET

This drawing is a reproduction of
the Original on a reduced scale.

FIG.1.

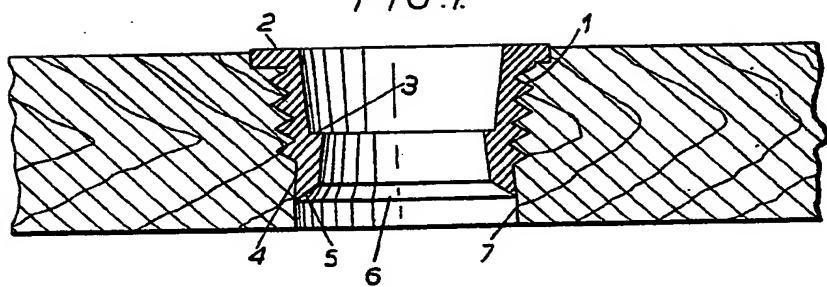


FIG.2.

